PRENTICE COMPUTER CENTRE

UNIVERSITY OF QUEENSLAND

ST.LUCIA

QUEENSLAND

AUSTRALIA 4067

NEWSLETTER

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authorization: Director of the Centre

1.0 OBITUARY - CHRIS DE VOIL

It is with great regret and sorrow that we record the sudden death of Chris de Voil on 21 May 1979. Following a brilliant academic career (Queensland Open Scholarship, B.E. (1st Class Honours in Electronics), M.Eng.Sc. (in Electronics), I.R.E. Sir Ernest Fisk Prize), he worked as a Scientific Officer in the Aeronautical Research Laboratories in Melbourne for five years before returning to Queensland to join the staff of the Department of Electrical Engineering as a Senior Demonstrator in Computing when the Computer Centre was part of that Department. He was subsequently promoted to Lecturer and when the Centre became a separate entity he was appointed as a Systems Analyst.

In his 12 years of service to the University, Chris made a major contribution to the development of computing facilities. He was widely known and respected for his knowledge of the GE225, the first computer installed by the University. He was part of a small team that grappled with the intricacies of the new technology of the PDP10 time sharing system when it was installed in 1968. His efforts since in improving the operating system and services on the PDP10 system will continue as testimony of his ability.

Chris was a very competent computer professional, his knowledge of the PDP-10 system being respected throughout Australia as well as at the headquarters of Digital Equipment Corporation in U.S.A. He advanced the general development of his profession through his membership of the Australian Computer Society and the Institute of Radio and Electronics Engineers Australia. He was a member of Digital Equipment Computer Users Society (DECUS) Australian Branch Management Board from its inception and represented Australia at a recent meeting of the International Program Library Committee of DECUS held in the U.S.A.

Chris was a person of great sensitivity. He loved his family, his music and his work. His outstanding characteristic as a member of the Centre's staff was his willingness and ability to help others with computing problems. Many members of the staff of the Computer Centre past and present owe a lot to Chris in the development of their professional abilities. Over his twelve years of service there must be countless users of the Centre who have benefitted from the quality of his advice. Somehow whenever there was a

major problem, no matter at what time, Chris would be
there trying to solve it. He believed very much that
the Centre was primarily a service organisation and he
supported this principal with ability and dedication.

We, in the Computer Centre, have been deeply
shocked and saddened by the death of Chris de Voil. We
have lost a senior and outstanding member of our
professional staff, a co-operative colleague and a
friend. We remember him with great affection and
respect.

Director
extension 2189

2.0 CHRIS DE VOIL MEMORIAL FUND, ROYAL SCHOOL OF CHURCH MUSIC

Chris de Voil had love of church music which is expressed
through his membership of choirs and research in the area. A
special memorial fund has been established.

There may be a number of users who have been associated with
Chris who would like to make a contribution. The details are:

Chris de Voil Memorial Fund
Royal School of Church Music
Queensland Branch
c/- the Secretary
15 Eccleston Street
Fig Tree Pocket. Qld. 4069

3.0 TYPE PROGRAM

Now available on the system directory is a program called
TYPE which offers a number of improvements over the facilities
offered by the current TYPE command. These improvements include
the correct listing of files with FORTRAN carriage control,
listing of COBOL SIXBIT files, the ability to encrypt files, the
ability to limit file printing by blocks, pages, lines or
columns.

Further information on TYPE is contained in the help file
which may be listed on a terminal by giving the command

HELP TYPE

and also in the file DOC:TYPE.HLP. Note that the Help file is
incorrect in that the TYPE monitor level command string format is
not yet available but the user level command string format is.

It is proposed that the monitor will be changed so that TYPE and
LIST commands will be processed by the TYPE program so that all
the TYPE switches will be availale in the TYPE and LIST commands.

Arthur Hartwig
extension 3021

4.0 SPSS POCKET GUIDE

The Centre has just received the delivery of about 20 SPSS
Pocket Guides, which have been placed in the batch station for
sale. The guides are written for release 8 of SPSS, which we
have not received yet, but will probably be sent on soon. The
guides sell for $3.30 each and contain quick reference to all of
the SPSS routines, their options and their statistics, to act as
a reminder for the experienced SPSS programmer.

The pocket guide is not designed to act as a replacement for
the manual. As the batch stations have a copy of the full manual
for client reference it is thought that users may save themselves
the expense of the full manual by using the pocket guide. Any
comments on the effectiveness of these guides should be directed
to Mick Purser on extension 3941.

5.0 NEW EDITION OF THE IMSL LIBRARY

International Mathematical and Statistical Libraries, Inc.
has announced the release of Edition 7 of the IMSL library. This
set of Fortran modules, designed to be used in the development of
scientific and engineering application programs, now consists of
approximately 460 subroutines covering the general fields of
mathematics and statistics.

Current users will be quick to notice several major changes.
Additions have been made to the library including thirty-eight
basic linear algebra codes (Chapter V) as well as several
routines to make the library easier to use. The documentation
has been substantially improved with an example for every
routine. Subroutine names and argument lists have been further
standardized across hardware types to aid those who change
computers or who have access to various types of hardware.

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The new manual, a three (3) volume set, has been placed in the care of the Program Librarian and the software has been placed on NEW:.

Mick Purser
extension 3941

6.0 FUR PROGRAM

The FUR program is now available on SYS:. FUR can perform a number of operations on disk files including copying, renaming, encrypting, extending. In addition FUR has wild commands compatible with other system programs such as QUEUE, DIRECT, and can select files based on length or creation date or access date. The /DECIDE switch can be used to select files from a certain group, for example the FUR command

DELETE *.BAK/DECIDE

will cause FUR to prompt the user before it deletes a file with extension .BAK. The user's response ("Y" or "N") determines whether the operation is applied to the file.

The code is present in FUR to allow it to be run directly by the monitor commands COPY, RENAME and DELETE. These commands will then not be directly compatible with the present versions of these commands, in particular DECTAPES are not supported in the RENAME and DELETE commands. Some time in the future the monitor may be changed so that these commands are processed by FUR.

More information on FUR is contained in the help file which may be read by typing

.HELP FUR

on a terminal.

Arthur Hartwig
extension 3021

7.0 STUDENT ACCOUNTING CHANGES

As from 4 June 1979 the method by which the programs STUPID and STUBAT attempt recovery from system crashes, is to be changed. Some explanation of the need for this ability to recover may be useful.

The information on expenditure limits, exercise names etc. that relates to a group of student PPNs is contained in a control file STUACT.HSH, kept on the [-,100] area of the project. This file is checked on login and updated on logout, for any job run on one of the projects PPNs.

When the supervisor wishes to set up new students or exercises or alter values for existing records he or she runs STUPID or STUBAT to effect these changes in STUACT.HSH. This updating is done by reading a record from the file into core memory, altering it there and then writing it back to the disk. Because the disk accesses are relatively slow processes and because some single program commands may result in changes to not just one but many records, a system crash during an updating session may leave the control file in a partially modified or corrupted state. The only sensible procedure is to restore the file to its state at some previous time when its integrity could be guaranteed. Of course the changes made from that point on have to be re-entered.

To enable this reconstruction of the control file, a dump of it is made into a file STUACT.SEQ, prior to an updating session with STUPID.

When STUPID asks the question

`Did the last run crash?   (Y or N):´

it is determining whether the control file needs to be reloaded from the backup file. If you answer `Y´ to the question it does this reconstruction for you. If answer `N´ then a dump is made of the current state of the control file to guard against a crash during this updating session.

The only weakness in this procedure is that an inexperienced user may erroneously answer `Y´ and not realize that the control file has been reset to its state prior to the last run of STUPID.

Which brings us back to the change to be made and the point of this article. In future the above question will not be asked, and instead, the program will automatically determine whether the control file needs reloading or not. This is done by the program checking for the existence of a file STUACT.BAK. If it exists then the hash file is reloaded from it, otherwise a dump of the control file is made into STUACT.BAK. The program informs the user which of these actions it is taking. On exitting from STUPID, the backup file STUACT.BAK is renamed to STUACT.SEQ. Thus if a system crash occurred prior to exitting from STUPID then STUACT.BAK would exist and when STUPID was next run would signal the need for reloading.

In the event of the control file being accidentally deleted or damaged then by renaming STUACT.SEQ via
            .RENAME STUACT.BAK=STUACT.SEQ
reloading of the control file could be forced. It is important to realize that only the student accounting programs provided should be used to examine STUACT.HSH; use of EDIT, for instance, will certainly damage it e.g.

```
.R STUPID
[STUPID 1-JUN-79]
PROJECT NUMBER: 156
STUDENT ACCOUNTING: Y
[BACKUP .BAK FILE CREATED]
.
.
.
*EXIT
[BACKUP .SEQ FILE CREATED]
.
```

The typeout in square brackets tells of the action the program is taking with regard to the backup files. In the event of a crash while running STUPID, before the EXIT command, then when it is next run the message will read [CONTROL FILE RELOADED FROM BACKUP] and whatever changes had been made to STUACT.HSH whilst running STUPID, up to the point where it crashed, will have to be repeated.

                                    Chris McGovern
                                    extension 3944

8.0 PRENTICE COMPUTER CENTRE SEMINARS

Seminars are held each Wednesday afternoon from 4.00 pm to 5.00 pm in Room 214 of the Hawken Engineering Building. All interested users are welcome, there is no limit on attendance at these seminars. Suggestions for future topics are also welcome, please contact Sarah Barry (ext 3941).

The next seminars scheduled by the Computer Centre are as follows.

June 13   Terminal Use (Control characters, SETSRC, Switch.ini etc.)

           Many users of the PDP-10's terminals are unaware of a

number of simple commands or features which can make
using the computer simpler. Points of discussion range
from setting the correct terminal characteristics to
creating SWITCH.INI files to give default switches for
programs. (If you don't really know what that means,
come along and find out!)

This seminar will be of most use to people who are
fairly new to the system, or those who are still using
the same basic commands they learnt years ago.

This seminar is necessary for users attending the SPSS
and Introductory Fortran courses.

June 20   Basic Edit

For new users, or those who have not used terminals
very much, this seminar explains how to create and edit
files; program, data or control files.

Every terminal user will have a need to edit files.
This seminar covers enough editing functions to enable
you to create a file and to correct it or change it as
the need arises.

It is advisable to have a copy of MNT-6 'EDIT - a line
editor for the PDP-10', this is obtainable from the
Hawken Batch Station.

June 27   Advanced Edit

A follow on from the previous seminar, this covers the
remaining features of the editor program.

Tips will be given on how to safeguard against editing
mistakes and recover from mishaps as well as techniques
to do extensive editing in an efficient way.

July 4   C

The language C, basis of the UNIX operating system, is
a third generation BCPL which allows the programmer
control of registers for systems programs and data
definitions and structures for commercial applications.
The language is far too extensive to be fully covered
in a seminar, so only an introduction is offerred.
This will include data types, operations, program
control, procedures and function, pointers and argument
passing.

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Use of the UNIX system will not be discussed but the C compiler operation will be described and how to use it. A more extensive coverage of the language can be obtained by attending COMPUTER SCIENCE's CS222 course in which C will be formally taught.

Those already familiar with basic C need not attend.

July 11   BLISS-11

BLISS is an ALGOL-like language intended for writing system programs. The seminar will deal with features of BLISS which distinguish it from other languages intended for the same application area; features such as absence of a 'goto', absence of typed variables, 'contents-of' operator and data structures. Mention will also be made of the facilities available for interfacing to the RT-11 and RSX-11 operating systems.

July 18   Discussion & Questions

This will be a Panel Discussion on the previous two seminars.

Please note that the seminars for July 4, 11, & 18 are different from the original advertisement.

9.0   VGTAB

VGTAB is a program which processes VG files, producing: (a) frequencies of occurrence of variables in one field, or (b) a one way tabulation of variables from one field against the variables of another field, or (c) a two way tabulation of the variables in any two fields.

A variable within a field is considered to be any unbroken string of alphanumeric characters. The first ten characters are taken as a variable and the rest of the string is truncated if required. The program will handle up to 40 variables in any one field. Hyphenated words are treated as one variable. All other punctuation symbols are regarded as being delimiters between variables (coma, brackets, period etc.). No distinction is made between upper and lower case, all being converted to upper case.

A search option is included. The search option allows searching on up to 4 fields. The fields may be related with an AND option (ie the condition for each field must be satisfied) or an OR option. Note: all fields selected for a search are declared as ALL being OR or all being AND.

The relationship between the variables in each field may be related by AND or OR. The relationship between the search values in any ONE field are all AND or all OR.

Wild card search variables are allowed (eg. STA* will match all strings starting with STA).

An example of a search type.

Select two fields and make them AND. The first field now requires the relationship for the values within. If we OR them then any value satisfying the search list will be accepted for this field. In the other field if we AND all the values, then all values in the search list must be found before acceptance. For full acceptence of the record we need (a) any search list value to match in the first field PLUS ALL the list values in the other field to be matched.

Up to 10 search values may be entered for a fields search list. Each search list value may consist of any 10 alphanumeric characters including "*" and "?" for wild searching. A field may be searched more than once by entering it twice.

NOTE: The fields being searched have NO relationship to the fields that are being tabulated (only those records that satisfy the search option are used for field tabulation). The output is in the form of a file "VGTAB.MEM".

```
.R VGTAB
[VGTAB:V(1)-1]
Master File: EXTN
Record Description

Field            Description

   1  -->        SURNAME INITIALS
   2  -->        TITLE AND FULL NAME
   3  -->        ADRES LIN1
   4  -->        ADRES LIN2
   5  -->        ADRES LIN3
   6  -->        AREA CODE
   7  -->        MAIL TYPE
   8  -->        DEGREE COURSE
   9  -->        SUBJECTS 1979
  10  -->        YEAR OF BIRTH
  11  -->        SEX
  12  -->        OCCUPATION
  13  -->        DEGREES HELD
  14  -->        COMPLETION DATE
  15  -->        ELIGIBILITY
  16  -->        SPARE FIELD

 21 records in file with 16 fields
Fields to be searched (max 4) :
TWO WAY tabulation required ? Y/N : N
ONE WAY tabulation only

Enter the Field Numbers to be Cross Tabulated : 11,9
SEX            [Tabulation with] SUBJECTS 1979
Found 21 Records
[SRTXPN Expanding to 60P+15P]

Output file "VGTAB.MEM" being produced
RUNOFF: VGTAB   1page
```

Geoff Vandenbeg
extension 3943